

FLIP CHIP INTERCONNECTION STRUCTURE**ABSTRACT**

A flip chip interconnection structure is formed by mechanically interlocking joining surfaces of a first and second element. The first element, which may be a bump on an integrated circuit chip, includes a soft, deformable material with a low yield strength and high elongation to failure. The surface of the second element, which may for example be a substrate pad, is provided with asperities into which the first element deforms plastically under pressure to form the mechanical interlock.